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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,298	04/20/2007	Fiona Becker	10582.204-US	1084
25908 7590 12/28/2009 NOVOZYMES NORTH AMERICA, INC. 500 FIFTH AVENUE SUITE 1600 NEW YORK, NY 10110				
EXAMINER				
BADR, HAMID R				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
12/28/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents-US-NY@novozymes.com

# Office Action Summary

**Application No.**

10/588,298

**Applicant(s)**

BECKER ET AL.

**Examiner**

HAMID R. BADR

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/22)  
Paper No(s)/Mail Date 8/3/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Objection*

Claim 11 is objected to for not further limiting the claim on which it depends. Claim 11 depends on claim 1, and claim 1 is already claiming a polypeptide having at least 83% identity to the amino acid sequence as shown in positions 1-182 of SEQ ID No. 2.

Claim 11 should be either cancelled or amended. Correction is required.

Claim 6 is objected to for not mentioning the species name. *Paenibacillus* DSM 16232 should be written to include the species name. Correction is required.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sibbesen et al. (WO 03/020923; hereinafter R1) in view of Cherry et al. (US 2003/0059902; hereinafter R2) and Watanabe et al. (2003, Cloning, Expression and cell surface localization of *Paenibacillus* sp.)
3. R1 discloses a variant xylanase polypeptide, or fragment thereof having xylanase activity. (Abstract).
4. R1 discloses that xylanases of Family 11 are of interest in baking. (page 10, lines 8-12). R1 discloses polypeptides prepared by recombinant means (pages 14-15).

5. R1 discloses the transformation of host cells and/or host organisms. (page 25, line 34 to page 26, line 31).
6. R1 discloses the applications of the xylanases of their invention in food and feeds. R1 teaches of the application of the xylanases of their invention in the preparation of dough and baked products obtained by baking such a dough and in the preparation of noodle and pasta products. (page 32, lines 7-34).
7. R1 is silent regarding the addition of exo-acting maltogenic amylase to the dough. R1 is also silent regarding the *Paenibacillus* xylanase as presently claimed.
8. R2 discloses that the maltogenic alpha-amylase variants of the invention have properties that can retard or prevent retrogradation, and thus the staling of starch based food common in the baking industry. The variant can be used for the preparation of bread and bread products per techniques known in the art. The maltogenic enzyme can be used on its own or in combination with additional enzymes including xylanase. [0131-0134]. Therefore, it is clear that application of maltogenic amylase together with xylanase, as presently claimed, was known in the art at the time the invention was made.
9. R2 is silent regarding the *Paenibacillus* xylanase.
10. R3 discloses the cloning, and expression of xylanase from *Paenibacillus* sp. (The whole article). Therefore, xylanase from *Paenibacillus* sp. was known in the art at the time the invention was made. Therefore, screening for a specific *Paenibacillus* sp. for xylanase activity would have been obvious and within the skill of the art.

11. Regarding the amino acid and nucleic acid sequences as presently claimed, polypeptide and DNA sequences of any source could have been prepared and cloned by artisans following established techniques in the art. One would expect the recombinant and natural enzymes to be the same regardless of the manner in which they were made, and that they would be expected to provide the same enzymatic activity, effect, etc.
12. Compositions comprising xylanase and flour as presently claimed are also known in the art. Such compositions could be in powder, granulate or liquid form which are all known in the art.
13. Therefore, it would have been obvious to those of skill in the art, at the time the invention was made, to prepare xylanase(s) from any source, including the presently claimed species, and clone it in host cells and culture the hosts and ultimately recover the enzymes from the culture broth and apply the enzyme in baking as disclosed by R1-R3. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success to screen for xylanase producing organisms, and clone other host cells for over-expression of the enzyme and ultimately apply the enzyme in baking.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr  
Examiner  
Art Unit 1794

/Keith D. Hendricks/  
Supervisory Patent Examiner, Art Unit 1794